

Claims

1. *Sub B1* Milling head having a basic body (10) and at least one cutting insert (150) which is clamped in the basic body (10) by means of a clamping element and whose position can be adjusted, wherein the cutting insert extends in a recess of the basic body and adjusting means (152, 160; 164, 166, 168; 170; 180; 190, 194) which are in engagement are provided for the purpose of adjusting the cutting insert, characterised in that the cutting insert (150) comprises a pivot mounting for adjustment purposes, wherein on both sides of the pivot two adjusting screws (166, 168) are provided in the cutting insert for the purpose of fixing the pivot movement of the cutting insert.
2. Milling head according to claim 1, characterised in that the cutting insert (150) is mounted on an adjusting part (152), wherein the cutting insert or the adjusting part comprises a protruding curvature (164) for the purpose of forming a pivot, and the cutting insert comprises two adjusting screws (166, 168) in engagement with the adjusting part.
3. *a* Milling head according to claim 1 ~~or 2~~, characterised in that the cutting insert (150) comprises a rotatable cutting plate carrier which supports the cutter.
4. *a* Milling head according to ~~any one of the claims 1 to 3~~, characterised in that a shaped member (190) is provided as the adjusting means for the cutting insert and is in forced form engagement with a complementary recess (196) of the cutting insert (150) in such a manner that any movement of the adjusting member causes the cutting insert to move in the same direction.
5. *a* Milling head according to ~~any one of the claims 1 to 4~~, characterised in that an adjusting wedge (152, 160; 180) which is mounted with a positive fit is provided as

the adjusting means for the cutting insert.

6. Milling head according to any one of the claims 1 to 5, characterised in that an adjusting screw (170) is provided as the adjusting means for the cutting insert.
7. *a* Milling head according to claim ~~6~~¹ characterised in that the adjusting screw is a differential screw which is in threaded engagement with the cutting insert.
8. *a* Milling head according to ~~any one of the claims 1 to 7~~¹, characterised in that a clamping wedge or angle piece or a claw is provided for the purpose of clamping the cutting insert.
9. *a* Milling head according to ~~any one of the claims 1 to 8~~¹, characterised in that a screw is provided for the purpose of clamping the cutting insert.
10. Milling head according to any one of the claims 1 to 9, characterised in that the cutting insert is a cartridge, which extends in the longitudinal direction of the cutting insert, in block form having a thread/complementary recess for engagement with the adjusting means.
11. *a* Milling head according to claim ~~10~~¹ characterised in that the cartridge is provided with a groove as a complementary recess for the adjusting means.
12. *a* Milling head according to ~~any one of the claims 1 to 11~~¹, characterised in that the cutting insert (150) comprises a cutter (156') which is soldered on to a carrier.
13. *a* Milling head according to ~~any one of the claims 1 to 11~~¹, characterised in that the cutting insert comprises a cutter which is mounted in a positive-fitting manner.

14. Milling head according to any one of the claims 1 to 11, characterised in that the cutting insert comprises a turning plate (156, 156") which is screwed to a carrier (154, 202).
15. *a* Milling head according to claim 14, characterised in that the carrier (202) of the turning plate (156") can be rotated.
16. *a* Milling head according to ~~any one of the claims 1 to 15~~, characterised in that the cutter and/or turning plate consists of hard metal, cermet, ceramic, CBN, polycrystalline natural and synthetic diamond as a thin and thick film.
17. *sub B2* Milling head according to any one of the claims 1 to 16, characterised in that cooling agent is supplied in the basic body and/or to the cutting insert.
18. *Sub D1* Milling head having a basic body (210) and cutting inserts (250) which can be adjusted in the basic body (210) in each case in recesses (220), wherein a clamping element (270) which is disposed in a recess (230) is provided for clamping purposes, characterised in that the cutting insert (250) is positioned in a positive-fitting manner in a receiving part (222, 224) and is fixed in its position by means of the clamping element (270).
19. *(15)* Milling head according to claim 18, characterised in that the cutting insert (250') is positioned in an eccentric bushing (280) which is mounted in a positive-fitting manner.
20. Milling head according to claim 18 or 19, characterised in that the cutting insert can be adjusted by means of a wedge or screw.
21. Milling head according to claim 18, characterised in that the basic body (210) is provided with a receiving bore (350) at an angle with respect to the rotational axis, in which an adjusting bushing (330) for the cutting insert (292) is positioned.

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22. ¹⁷
a Milling head according to claim ~~21~~¹⁷, characterised in that the cutting insert (292) is mounted in a two-part conical bushing (350).
23. *a* Milling head according to ~~any one of the claims 18 to 22~~¹, characterised in that a receiving part (230) for the clamping element (270) is provided and the clamping element is disposed in a displaceable manner in said receiving part.
24. *a* Milling head according to ~~any one of the claims 18 to 23~~¹⁷, characterised in that the receiving part (230) for the clamping element (270) crosses the receiving part (220) of the cutting insert (250).
25. Milling head according to any one of the claims 18 to 24, characterised in that the cutting insert (250) is provided with an inclination (260) on the side engaging with the clamping element (270).
26. ¹⁷
a Milling head according to claim ~~25~~¹⁷, characterised in that the inclination (260) is formed at an angle β of about 10° .
27. ²⁴
a Milling head according to ~~any one of the claims 18 to 26~~²⁴, characterised in that the clamping element (270) is provided with an inclination (274) on the side engaging with the cutting insert.
28. Milling head according to claims 25 and 27, characterised in that the angle α of the inclination (274) of the clamping element (270) is smaller than the angle of the inclination of the cutting insert.
29. ¹⁷
a Milling head according to claim ~~28~~¹⁷, characterised in that the difference in the inclination angles (β , α) is about 2° .
30. ¹⁷
a Milling head according to ~~any one of the claims 18 to 29~~¹⁷, characterised in that a differential screw is provided for the purpose of adjusting the cutting insert (250).

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31. ¹⁷
a Milling head according to ~~any one of the claims 18 to 30~~ characterised in that the cutting insert (250) comprises a cutter (256) which is soldered on to a carrier.
32. ¹⁷
a Milling head according to ~~any one of the claims 18 to 31~~ characterised in that the cutting insert (250) comprises a turning plate (256') which is screwed to a carrier.
33. ¹⁷
a Milling head according to ~~any one of the claims 18 to 32~~ characterised in that the cutter and/or turning plate consists of hard metal, cermet, ceramic, CBN, polycrystalline natural and synthetic diamond as a thin and thick film.
34. Milling head according to any one of the claims 18 to 33, characterised in that the cutting insert (250) is L-shaped, wherein the cutter (256) is located in the front region of the short limb (254).
35. ¹⁷
a Milling head according to claim ~~34~~ characterised in that the inclination (260) is located on the long limb (252).
36. ¹⁷
a Milling head according to any one of the claims ~~18 to 35~~ characterised in that the cutting insert (254) comprises a rotatable cutting plate carrier (292) which supports the cutter.
37. Milling head according to any one of the claims 18 to 36, characterised in that the cutting insert (250) supports a movable cutting plate (256''), against which lies one end of a pin body (320) which impinges at an angle, wherein the pin body (320) exerts pressure outwardly against the cutting plate (256'') and lies with its other end against the inclined surface (312) of an adjusting element.
38. Milling head according to claim 37, characterised in that the pin body is a pin (320) or a screw.

39. ^a Milling head according to claim 36 or 37, characterised in that the adjusting element (310) is a conical screw.
40. Milling head according to any one of the claims 18 to 39, characterised in that a cooling arrangement is provided in the basic body (210).